THE OFFICE OF REGULATORY STAFF

DIRECT TESTIMONY

OF

M. ANTHONY JAMES

AUGUST 4, 2009

DOCKET NO. 2008-447-EG

Energy Independence and Security Act of 2007: Utility Energy Efficiency Programs and State Consideration of Smart Grid Standards

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IN RE: THE ENERGY INDEPENDENCE AND SECURITY ACT OF 2007:

UTILITY ENERGY EFFICIENCY PROGRAMS AND

STATE CONSIDERATION OF SMART GRID STANDARDS

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND OCCUPATION.

A. My name is Anthony James. My business address is 1401 Main Street, Suite 900, Columbia, South Carolina 29201. I am employed by the State of South Carolina as Associate Program Manager in the Electric Department of the Office of Regulatory Staff ("ORS").

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A. I received a Bachelor's Degree in Engineering from the University of South Carolina. I also received a Master's Degree in Earth and Environmental Resources Management from the University of South Carolina. I have over twenty years of experience as a project engineer in environmental regulatory compliance. I am a Professional Engineer registered in the State of South

Carolina, a member of the South Carolina Society of Professional Engineers, and a member of the NARUC Staff Subcommittee on Electricity.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony is to participate on behalf of ORS in the Public Service Commission of South Carolina's ("Commission") consideration of matters as required by Sections 532 and 1307 of the Energy Independence and Security Act of 2007 ("EISA").

Q. WOULD YOU PLEASE ELABORATE ON THE REQUIREMENTS OF SECTION 532 OF EISA?

A. Yes. Section 532 of EISA amends Section 111(d) of the Public Utility Regulatory Policies Act of 1978 ("PURPA"). The amendments establish two federal standards for consideration: integrated resource planning for electric utilities (EISA Section 532(a)(16)); and rate design modifications to promote energy efficiency investments (EISA Section 532(a)(17)).

Q. WOULD YOU PLEASE DISCUSS THE FIRST STANDARD AS ESTABLISHED IN SECTION 532(a)(16) OF EISA REGARDING INTEGRATED RESOURCE PLANNING?

A. Yes. The Commission must consider requiring electric utilities to integrate energy efficiency resources into utility, state, and regional plans; and adopt policies establishing cost-effective energy efficiency as a priority resource.

Integrated resource plan ("IRP") is defined in S.C. Code Section 58-37-10 as "a plan which contains the demand and energy forecast for at least a

fifteen-year period, contains the supplier's and producer's program for meeting the requirements shown in its forecast in an economic and reliable manner, including both demand-side and supply-side options, with a brief description and summary cost-benefit analysis, if available, of each option which was considered, including those not selected, sets forth the supplier's or producer's assumptions and conclusions with respect to the effect of the plan on the cost and reliability of energy service, and describes the external environmental and economic consequences of the plan to the extent practicable."

South Carolina Code Section 58-37-10 defines demand-side activity as "a program conducted or proposed by a producer, supplier, or distributor of energy for the reduction or more efficient use of energy requirements of the producer's, supplier's, or distributor's customers, including, but not limited to, conservation and energy efficiency, load management, cogeneration, and renewable energy technologies."

South Carolina Code Section 58-37-40 requires electrical utilities to prepare IRPs patterned after an integrated resource planning process developed by the Commission. The Commission's planning process is outlined in Commission Order No. 98-502. The reporting process developed by the Commission is consistent with state law and directs utilities to prepare IRPs which include demand-side and supply-side options. In addition, S.C. Code Section 58-33-430 requires Commission-regulated utilities to file an annual report containing a forecast of loads and resources. In keeping with these requirements, the IRPs

filed by regulated utilities with the Commission include cost effective energy efficiency practices as part of their long-range planning process.

Q. WOULD YOU PLEASE DISCUSS THE SECOND STANDARD ESTABLISHED IN SECTION 532(a)(17) OF EISA REGARDING RATE DESIGN MODIFICATIONS TO PROMOTE ENERGY EFFICIENCY INVESTMENTS?

A. Yes. This section requires, the Commission to consider establishing rate structures that align utility incentives with the delivery of cost-effective energy efficiency and promote energy efficiency investments. In complying with this standard, each state regulatory authority shall consider six policy options: (1) removing the throughput incentive and other regulatory and management disincentives to energy efficiency; (2) providing utility incentives for the successful management of energy efficiency programs; (3) including the impact on adoption of energy efficiency as one of the goals of retail rate design, recognizing that energy efficiency must be balanced with other objectives; (4) adopting rate designs that encourage energy efficiency for each customer class; (5) allowing timely recovery of energy efficiency-related costs; and (6) offering home energy audits, offering demand response programs, publicizing the financial and environmental benefits associated with making home energy efficiency improvements, and educating homeowners about all existing Federal and State incentives, including the availability of low-cost loans, that make energy efficiency improvements more affordable.

S.C. Code Section 58-37-20 allows the Commission to adopt procedures that encourage electrical utilities to invest in cost-effective energy efficient technologies and energy conservation programs and provides for incentives and cost recovery.

Q. IN WHAT MANNER DO YOU PROPOSE TO DISCUSS THESE OPTIONS?

A. I will first address options 1, 2 and 5 because the Commission has issued an Order which directly responds to these EISA policy options. Next, I will address options 3 and 4 because these policy options are specific to rate design. Lastly, I will address option 6, separately, as it uniquely applies to enhancing consumer access to energy information.

Q. PLEASE ELABORATE ON POLICY OPTIONS 1, 2 AND 5?

A. Policy option 1 addresses removing the utility throughput incentive. The "throughput incentive" exists when utility margins are improved with increased kilowatt-hour ("kWh") sales and reduced with decreased kWh sales. When this situation exits, the utility has a financial incentive to promote increased kWh sales by maximizing the "throughput" of electricity. Conversely, there is a financial disincentive to promote conservation and energy efficiency which reduces kWh sales. The Commission previously addressed the elimination of the throughput incentive in Order No. 2009-373 dated June 26, 2009 where the Commission approved the recovery by Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc. ("Progress Energy") of its net lost revenues resulting from implementing energy efficiency programs.

Policy option 2 pertains to providing utilities incentives for successful management of energy efficiency programs. Again, in Order No. 2009-373, the Commission addressed policy option 2 by approving an incentive for successfully managing energy efficiency programs after measurement and verification.

Policy option 5 relates to allowing timely recovery of energy efficiency related costs for a utility. In Order No. 2009-435 dated June 26, 2009, the Commission addressed this policy option by approving Progress Energy's annual rider associated with implementation of its energy efficiency programs.

Q. WOULD YOU PLEASE DISCUSS POLICY OPTIONS 3 AND 4?

A. Yes. Policy options 3 and 4 provide for including the impact on adoption of energy efficiency as one of the goals of retail rate design and adopting rate designs that encourage energy efficiency. Traditionally, utilities have established rates based on their cost of service. This approach inherently captures energy efficiency concepts and continues to be the most suitable approach for determining reasonable and appropriate rates for South Carolina's vertically integrated utilities. However, it should be noted that the Commission has approved various rate structures that promote demand side management and energy efficiency such as inverted-block rates, time-of-use rates, curtailable rates, conservation rates and real-time pricing rates.

Q. WOULD YOU PLEASE DISCUSS POLICY OPTION 6?

A. Yes. Policy option 6 targets improving a homeowner's access to energy audits, demand response programs and various information to make their homes more energy efficient. In Order 2009-374 dated June 26, 2009, the Commission

approved Progress Energy's portfolio of energy efficiency programs which includes home energy audits. In addition, the investor-owned utilities maintain information on their websites that promote and educate consumers about energy efficiency practices. Additionally, as part of its outreach efforts, ORS provides brochures to consumers which contain energy saving tips.

With regard to federal and state tax incentives, the SC Energy Office informs consumers of energy tax incentives through their routine outreach efforts. Also, the SC Energy Office website maintains a current list of federal and state energy tax incentives.

Q. WOULD YOU PLEASE ELABORATE ON THE REQUIREMENTS OF SECTION 1307 OF EISA?

A. Yes. Section 1307 of EISA amends Section 111(d) of PURPA. The amendments establish two federal standards: Consideration of smart grid investments (EISA Section 1307(a)(16)); and smart grid information (EISA Section 1307(a)(17)).

For reference, Section 1301 of EISA lists the characteristics of a "smart grid" as: (1) increased use of digital information and controls technology to improve reliability, security, and efficiency of the electric grid; (2) dynamic optimization of grid operations and resources, with full cyber-security; (3) deployment and integration of distributed resources and generation, including renewable resources; (4) development and incorporation of demand response, demand-side resources, and energy-efficiency resources; (5) deployment of "smart" technologies (real-time, automated, interactive technologies that optimize

the physical operation of appliances and consumer devices) for metering, communications concerning grid operations and status, and distribution automation; (6) integration of "smart" appliances and consumer devices; (7) deployment and integration of advanced electricity storage and peak-shaving technologies, including plug-in electric and hybrid electric vehicles, and thermal-storage air conditioning; (8) provision to consumers of timely information and control options; (9) development of standards for communication and interoperability of appliances and equipment connected to the electric grid, including the infrastructure serving the grid; and (10) identification and lowering of unreasonable or unnecessary barriers to adoption of smart grid technologies, practices, and services.

Q. WOULD YOU PLEASE DISCUSS THE FIRST STANDARD AS ESTABLISHED IN SECTION 1307(a)(16) OF EISA REGARDING SMART GRID INVESTMENTS?

A. Yes. The Commission must consider: (A) requiring an electric utility to demonstrate that the utility considered an investment in a "qualified" smart grid system prior to undertaking investments in traditional grid technologies; (B) allowing utilities to recover, from ratepayers, costs relating to the deployment of a qualified smart grid system; and (C) authorizing an electric utility to recover in a timely manner the remaining book-value costs of any equipment rendered obsolete by the deployment of the qualified smart grid system.

With regard to giving preference to investment in smart grid technologies over traditional technologies, Section 1307(a)(16) establishes six factors that must

be evaluated. They are: total costs, cost-effectiveness, improved reliability, security, system performance and societal benefit. The Commission considers all of these factors when evaluating utility investments to ensure they are in the public inertest. The Commission requires the utilities to make prudent investments that result in the minimization of the total costs of the utility's overall system and produces the least cost to the consumer consistent with the availability of an adequate and reliable supply of electricity.

With regard to rate recovery, utilities can seek recovery of their capital costs and operating costs which can include smart grid technologies through revised base rates established in a general rate case proceeding. Additionally, the Commission has the authority to allow rate recovery outside of a general rate case by approving a specific rider to base rates.

With regard to recovery of costs of equipment rendered obsolete due to implementation of smart grid technologies, the Commission has the authority to allow a utility to recover costs of obsolete equipment.

Q. WOULD YOU PLEASE DISCUSS THE SECOND STANDARD AS ESTABLISHED IN SECTION 1307(a)(17) OF EISA REGARDING SMART GRID INFORMATION?

A. Yes. The smart grid information standard requires the Commission to consider providing electric purchasers direct access to information from their electricity provider to include prices, usage, intervals and projections, and sources in either written or electronic form. Additionally, consumers must be able to access their own information through the Internet for smart grid applications.

The utilities currently offer electronic/Internet access to prices via rate schedules and various customer specific usage information. In addition, utilities file IRPs with the Commission which contain information about the sources of power provided by type of generation. The utility's IRPs are available to consumers through the Commission's website.

Q. DOES ORS HAVE A RECOMMENDATION ON THE STANDARDS EISA REQUIRES THE COMMISSION TO CONSIDER?

A. Yes. ORS recommends that no specific standard be adopted at this time. South Carolina investor-owned utilities currently engage in practices that are comparable to the goals of the EISA standards. These practices are done via Commission order, South Carolina law or voluntarily by the South Carolina investor-owned utilities. While ORS recommends that no specific EISA standard be adopted at this time, ORS recognizes that it may be appropriate to apply the standards on a case by case basis at some future time.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.